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L1: Entry 1 of 2

File: USPT

Aug 7, 2001

US-PAT-NO: 6270767

DOCUMENT-IDENTIFIER: US 6270767 B1

TITLE: Trypanosoma cruzi antigen, gene encoding therefor and methods of detecting and treating chagas disease

DATE-ISSUED: August 7, 2001

## INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
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US-CL-CURRENT: 424/151.1; 424/130.1, 424/139.1, 424/141.1, 424/142.1, 424/191.1, 435/4, 435/7.1, 435/7.22, 435/7.92, 530/387.1, 530/388.1, 530/388.6

## CLAIMS:

What is claimed is:

1. Isolated and/or purified monoclonal or polyclonal antibodies that are obtained by immunological reaction of a human or animal organism to an immunogenic agent that binds to anti-Trypanosoma cruzi antisera, said immunogenic agent being selected from the group consisting of: a cytoplasmic protein of Trypanosoma cruzi with an apparent molecular mass of about 100 kDa and having the amino acid sequence of SEQ ID NO: 2; and an immunogenic fragment of said cytoplasmic protein.
2. A reagent for detecting or monitoring a Trypanosoma cruzi infection, said reagent comprising antibodies according to claim 1.
3. A reagent for detecting or monitoring a Trypanosoma cruzi infection according to claim 2, wherein said antibodies are attached to a solid support.
4. A method for detecting or monitoring a Trypanosoma cruzi infection in a biological sample, said method comprising:  
placing said sample and a reagent according to claim 2 in contact, under conditions that allow an immunological reaction, and  
detecting the presence of an immune complex with said reagent.
5. A pharmaceutical composition for treatment of infections due to Trypanosoma cruzi, said composition comprising a therapeutically active quantity of antibodies according to claim 1.
6. Antibodies according to claim 1, wherein said immunogenic agent comprises an amino acid sequence starting at amino acid 323 and ending at amino acid 520 of SEQ ID NO: 2, or an immunogenic fragment thereof.
7. Isolated and/or purified monoclonal or polyclonal antibodies obtained by immunological reaction of a human or animal organism to an immunogenic agent consisting of a cytoplasmic protein of Trypanosoma cruzi with an apparent molecular mass of about 100 kDa that binds to anti-Trypanosoma cruzi antisera.
8. An antibody according to claim 7, wherein said cytoplasmic protein has the amino acid sequence of SEQ ID NO: 2.
9. A reagent for detecting or monitoring a Trypanosoma cruzi infection, comprising antibodies according to claim 7.
10. A reagent for detecting or monitoring a Trypanosoma cruzi infection according to claim 7, wherein said antibodies are attached to a solid support.

11. A method for detecting or monitoring a *Trypanosoma cruzi* infection in a biological sample, said method comprising:  
placing said sample and a reagent according to claim 9 in contact, under conditions that allow an immunological reaction, and  
detecting the presence of an immune complex with said reagent.
12. A pharmaceutical composition for treatment of infections due to *Trypanosoma cruzi*, said composition comprising a therapeutically active quantity of antibodies according to claim 7.
13. Isolated and/or purified monoclonal or polyclonal antibodies that specifically bind to one or more epitopes of a cytoplasmic antigen of *Trypanosoma cruzi* that (a) has an apparent molecular mass of about 100 kDa and (b) has the amino acid sequence of SEQ ID NO: 2.
14. Monoclonal antibodies according to claim 13, which specifically bind to an epitope of a cytoplasmic antigen of *Trypanosoma cruzi*.
15. Polyclonal antibodies according to claim 13, which specifically bind to epitopes of a cytoplasmic antigen of *Trypanosoma cruzi*.
16. A method for detecting and/or monitoring a *Trypanosoma cruzi* infection in an individual or animal, said method comprising:  
obtaining a biological sample from said individual or animal;  
placing said sample in contact with antibodies according to claim 13; and  
detecting the presence of an immune complex with at least one of said antibodies.
17. A method according to claim 16, wherein said biological sample is a blood sample.
18. A method according to claim 16, wherein said antibodies are attached to a solid support.
19. A reagent for detecting and/or monitoring a *Trypanosoma cruzi* infection in an individual or animal, comprising antibodies according to claim 13.
20. A reagent according to claim 19, wherein said antibodies are attached to a solid support.

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Oct 13, 1998

File: USPT

L1: Entry 2 of 2

US-PAT-NO: 5820864

DOCUMENT-IDENTIFIER: US 5820864 A

TITLE: Trypanosoma cruzi antigen, gene encoding therefor and methods of detecting and treating chagas disease

DATE-ISSUED: October 13, 1998

INVENTOR-INFORMATION:

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STATE ZIP CODE COUNTRY

N/A N/A FRX

N/A N/A FRX

N/A N/A FRX

US-CL-CURRENT: 424/185.1; 424/190.1, 424/265.1, 424/269.1, 435/6, 435/7.1, 530/350, 530/387.1, 530/387.2, 530/387.9, 530/388.6

CLAIMS:

We claim:

1. A synthetic or isolated protein or protein fragment selected from the group consisting of:  
a cytoplasmic protein with an apparent molecular mass of about 100 kDa having the amino acid sequence of SEQ ID NO:2; and  
a polypeptide or peptide comprising a fragment of said cytoplasmic protein, wherein said protein or protein fragment is recognized by anti-Trypanosoma cruzi antisera.

2. The protein fragment according to claim 1, wherein said protein fragment comprises a first amino acid sequence starting at amino acid 323 and ending at amino acid 520 of SEQ ID NO:2, or a degenerate thereof.

3. The protein or protein fragment according to claim 1, wherein said protein or protein fragment exhibits reactivity with sera from individuals or animals infected with Trypanosoma cruzi.

4. A composition comprising at least two different proteins or protein fragments according to claim 1, wherein said composition exhibits reactivity with sera from individuals or animals infected with Trypanosoma cruzi.

5. A reagent for detecting or monitoring a Trypanosoma cruzi infection, said agent comprising a protein or protein fragment according to claim 1.

6. A pharmaceutical composition for the prevention or treatment of infections due to Trypanosoma cruzi, said composition comprising a therapeutically active quantity of a protein or protein fragment according to claim 1.

7. A synthetic or isolated molecule indicative of Trypanosoma cruzi, wherein said molecule specifically binds (a) anti-Trypanosoma cruzi antisera, and (b) antibodies that specifically bind the protein or protein fragment of claim 1.

8. The protein or protein fragment according to claim 1, wherein said protein or protein fragment specifically binds anti-PTc100 antibodies.

9. A synthetic or isolated peptide which specifically binds anti-PTc100 antibodies.

10. The peptide according to claim 9 wherein said peptide has an apparent molecular mass of about 100 kDa.

11. A synthetic or isolated molecule indicative of Trypanosoma cruzi, wherein said molecule specifically binds antibodies that react with a cytoplasmic

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said molecule specifically binds antibodies that react with a cytoplasmic protein with an apparent molecular mass of about 100 kDa having the amino acid sequence of SEQ ID NO:2, or a polypeptide or peptide comprising an immunogenic fragment of said cytoplasmic protein.

12. A synthetic or isolated peptide that is encoded by a nucleotide sequence that is identical or degenerate to SEQ ID NO:1, or a fragment thereof, wherein said fragment is selected from the group consisting of a first sequence from nucleotide 1232-2207 of SEQ ID NO:1, a second sequence from nucleotide 1232-1825 of SEQ ID NO:1, and a third sequence from nucleotide 1266-2207 of SEQ ID NO:1, wherein said peptide specifically binds anti-Trypanosoma cruzi antisera.